Analyzing the Impact of Move-In Week on the Greater Boston Area

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***Abstract*—Move in week is universally chaotic and a generally unpleasant experience for both, college students and local residents [1]. Despite universities' meticulous attempts to mitigate trouble, the logistical concerns presented by the sudden influx of over 30,000 students are inevitable. In this project, we attempt to identify specific factors affecting residents' quality of life (as a result of move-in week) and study ways to improve it.**

I. Introduction

Over 50,000 new and returning students move in to dormitories and apartments in the city of Boston each year [2]. Known colloquially as "move-in week", this 7-day period between late August and early September wreaks considerable havoc over residents' lives. Traffic delays, overcrowded public transport, inadequate parking spaces, and the infamous *"Storrowed"* trucks [3] are among some of the difficulties that irk both, students and locals.

Due to the nature of an academic calendar for most universities, the lease cycle tends to be September 1st. This rapid movement in a dense area affects the overall quality of life in the city, often for the worse. [TODO: explain why we care(answering 2 questions...)].

Mensurability notwithstanding, conventional proxies[1] for quality of life disregard (among other things) societal happiness: a critical adjunct to traditional economic metrics [4]. To remedy this, we propose an approach that utilizes open data sourced from Boston City's *Analyze Boston* data portal [5] and posts made on the microblogging platform, Twitter [6]. In particular, we use the *CityScore*, *311 Service Requests*, and *Boston Fire Incident Reporting* datasets to identify the demand for specific city resources across multiple time periods as a function of user satisfaction.

The rest of this paper is organized as follows: in section II, we document related research that inspired this project. In section III, we describe each of the 4 chosen datasets in greater detail to focus on their merits, potential limitations, and the methods we used to discern their relative importance in estimating the city's quality of life. Section IV outlines our results and examines their implications. Section V concludes the report with an outlook on future research.

II. Related Work

Jim Haddadin explored the relationship between move-in week and garbage disposal concerns in [7]. Noting a sharp rise in the number of code violations around university residences during move-in week, Haddadin highlights some unforeseen consequences of improper trash disposal. In [4], Dodds et al address the subjectivity and vagueness inherent to estimating happiness among people by mining over 46 billion tweets to uncover temporal variations in happiness and information levels over timescales ranging from hours to years.Their remote-sensing 'hedonometer' algorithm generated a rich source of information about short-term, experiential happiness in a population and its causes. We use a similar, albeit slightly modified approach to understand residents' moods during move-in week.

III. Approach

Our desire to allay the worst aspects of move-in week presupposes the existence of a correlation between students moving in and a perceptible change in the quality of residents' lives. This requires:

i. The identification of metrics that can effectively approximate quality of life and

ii. Predictive analyses that capture and justify the impact of altering select attributes of move-in week[2].

Similar to the approaches charted in [4] and [7], we begin first by selecting datasets that might evince the impact of students moving in. Boston City's Open Data Initiative, *Analyze Boston* portal provides a vast repository of highly granular information about the city's functioning. In particular, the *311 Service Requests*, *CityScores*, and *Fire Incident Reporting* datasets are of particular interest and we expound their significance below [5]. For quality of life, we rely on the seminal research conducted by Mitchell et al in [8] and use geotagged Twitter posts within 50 kilometers of Boston city to gauge happiness. Limitations stemming from a lack of representativeness and potential bias in dataset selection are explored further in section IV.

A. Vincent

B. Claire

C. Library Attendance Analysis

The goal of analyzing library visits to city score started out with questioning whether the number of visits actually went up during university session. The two datasets, were filtered based

[1]The GDP (Gross Domestic Product) is often used as an approximate measure of quality of life, in conjunction with other metrics such as the HDI (Human Development Index) and Gini Coefficient.

[2]Note that this does **not** insinuate the existence of a causal relationship between university students moving in and residents' quality of life: it merely seeks to leverage potential correlations between the two.

on the "ETL_LOAD_DATE" feature from the City Score data set:

Students In Session

- September
- October
- November
- December 1st-15th
- January 16th-31st
- February
- March
- April
- May

Students Not In Session:

- January 1st-15th
- July
- June
- August
- December 16th-31st

D. Analyzing Quality of Life

Traditional economic indicators such as gross domestic product (GDP), Gini coefficient, and human development index (HDI) provide remarkable approximations for quality of life and are often indicative of a region's well-being and health [9][10]. In our analysis of Boston's quality of life, however, we were careful to avoid using these metrics for several reasons. First, the length of our timeframe of interest (7 days) would render the evolution of most economic indicators inconsequential. Second, given the geographic area of consideration (Greater Boston), none of the aforementioned metrics are appropriate[3]. Perhaps most importantly, economic prosperity does not provide an accurate representation of emotional well-being [10].

IV. Results

Results go here.

V. Conclusion

Conclusion goes here.

VI. Outlook

References

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[10] Kahneman, Daniel, and Angus Deaton. "High income improves evaluation of life but not emotional well-being." Proceedings of the national academy of sciences 107.38 (2010): 16489-16493.

[3]GDP, HDI, and Gini coefficients are computed for countries as a whole.